2016 Spring Electrofishing (SEII) Summary Report

Iola Millpond (WBIC 278800)

Waupaca County

Introduction and Survey Objectives

In 2016, the Department of Natural Resources conducted a one night boomshocking survey of Iola Millpond in order to provide insight and direction for the future fisheries management of this water body. Primary sampling objectives of this survey are to characterize species composition, relative abundance, and size structure. The following report is a brief summary of all activities conducted, general status of fish populations and future management options.

Acres: 220
Lake Type: Impoundment
Regulations: Statewide Default Regulations
Shoreline Miles: 4.74
Public Access: 1 public boat Launch
Maximum Depth (feet): 9

WISCONSIN DNR CONTACT INFO.

Elliot Hoffman - Fisheries Technician

Wisconsin Dept. of Natural Resources
647 Lakeland Rd.
Shawano, WI 54166

Elliot Hoffman Phone: 715-526-4231
E-mail: elliot.hoffman@wisconsin.gov

Survey Information							
Site location	Survey Date	Water Temp. (F)	Target Species	Total Miles Shocked	No. of Stations	Gear	Dippers
Iola Millpond	5/18/2016	64	All	1.5	3	Boomshocker	2

Fish Metric Descriptions
PSD, CPUE, LFD and Growth

Proportional Stock Density (PSD) is an index used to describe size structure of fish. It is calculated by dividing the number of quality size fish by the number of stock size fish for a given species. PSD values in the 30 to 50 percent range generally describe a balanced fish population.

Catch per unit effort (CPUE) is an index used to measure fish population relative abundance which simply refers to the number of fish captured per unit of distance or time. For lake surveys we typically quantify CPUE by the number and size of fish per mile of shoreline. CPUE indexes are compared to statewide data by percentiles. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state.

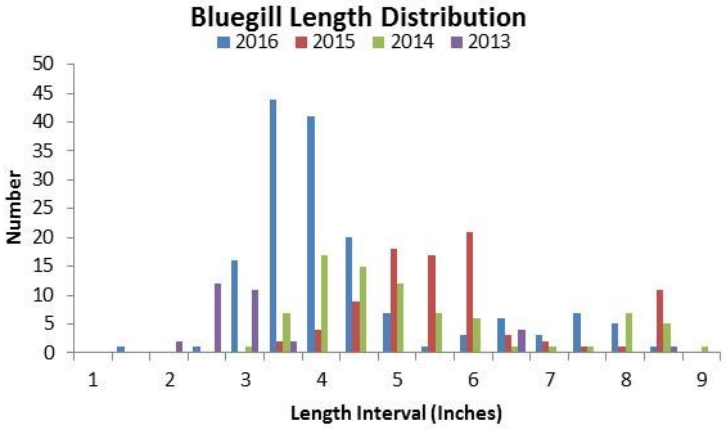
Length frequency distribution (LFD) is a graphical representation of the percentage of fish captured by one inch size intervals. Smaller fish (or younger age classes) may not always be represented in the length frequency due to different habitat usage or gear sampling limitations.

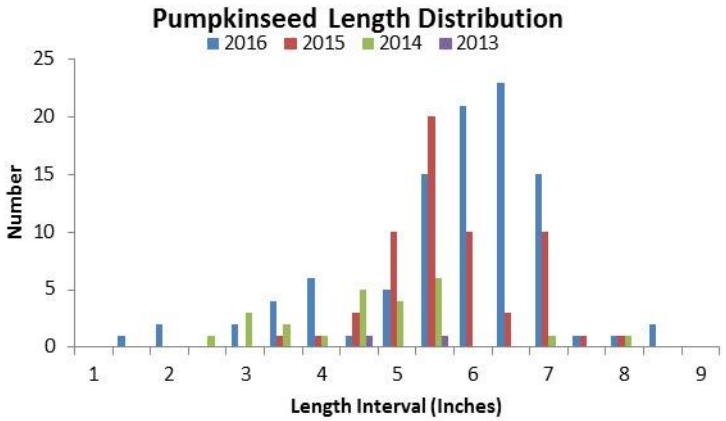
Survey Method

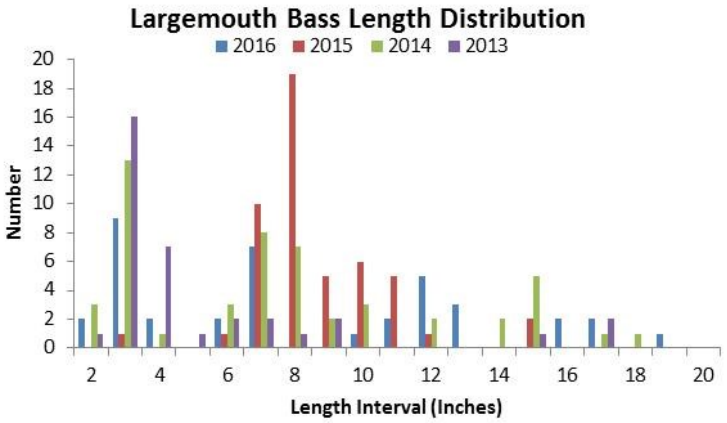
- Iola Millpond was sampled according to spring electrofishing (SEII) protocols as outlined in the statewide lake assessment plan. The primary objective for this sampling period is to count and measure adult bass and panfish. Other gamefish may be sampled but are considered by-catch as part of this survey.
- One and a half miles of shoreline was sampled. All fish captured were identified to species and measured for length.
- Fish metrics used to describe fish populations include proportional stock density, catch per effort, and length frequency distribution,.

Size Structure Metrics									
Species	Total	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock No	Quality No	PSD	Percentile Rank	Size Rating
BLUEGILL	156	4.5	1.9 - 8.5	3.0 and 6.0	154	25	16%	23rd	Low
LARGEMOUTH BASS	38	8.7	2.9 - 19.4	8.0 and 12.0	16	13	81%	83rd	Moderate - High
NORTHERN PIKE	7	16.4	14.5 - 18.5	14.0 and 21.0	7	0	0%	-	Low
PUMPKINSEED	99	6.0	1.6 - 8.8	3.0 and 6.0	96	63	66%	79th	Moderate - High

Abundance Metrics							
Species	CPUE Total (no per mile)	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Percentile Rank	Abundance Rating
BLUEGILL	104.0	55th	Moderate	≥ 7.0	10.7	63rd	Moderate
LARGEMOUTH BASS	25.3	67th	Moderate	≥ 14.0	3.3	58th	Moderate
NORTHERN PIKE	4.7	83rd	Moderate - High	≥ 21.0	0	-	Low
PUMPKINSEED	66.0	95th	High	≥ 7.0	12.7	97th	High







Stocking History				
Species	**Year**	**Age**	**Mean Length**	**Number Stocked**
BLUEGILL	2016	LARGE FINGERLING	0.5	18925
LARGEMOUTH BASS	2015	LARGE FINGERLING	1.9	11012
LARGEMOUTH BASS	2014	LARGE FINGERLING	3.2	5125
NORTHERN PIKE	2014	SMALL FINGERLING	2.7	15442
LARGEMOUTH BASS	2013	LARGE FINGERLING	2.1	5148
NORTHERN PIKE	2013	SMALL FINGERLING	4.5	15451

Summary

- A total of 340 fish in 12 species were collected during our survey. The most frequently encountered and common species were bluegill (156), pumpkinseed (99), largemouth bass (38), and lake chubsucker (24).
- One state listed special concern species, lake chubsucker, was found at moderate levels of abundance.
- Other species sampled in low abundance included black crappie (1), golden shiner (6), green sunfish hybrid (2), northern pike (7), rock bass (1), white sucker (3), yellow bullhead (2), and yellow perch (1).
- Largemouth bass was the dominant gamefish captured in our survey. Size structure was at moderate to high levels, while the abundance metrics were at moderate levels. The largest bass sampled was 19.4 inches and 32% of the bass caught were greater than 14.0 inches.
- 7 northern pike were sampled. Fyke netting would be the more appropriate sampling technique to assess this population. Iola millpond should be sampled with in the next few years with fyke nets.
- Panfish populations were mainly comprised of bluegill and pumpkinseed. Bluegill were found at moderate density and low size structure with only 16% of our catch greater than 6.0 inches and 10% greater than 7.0 inches. Pumpkinseed were found at high abundance levels and size structure was high with 66% of the catch greater than 6.0 inches and 20% of our catch greater than 7.0 inches.
- Panfish abundance metrics were lower than expected, suggesting these populations are recovering slower than expected following the refill of the mill pond. However, panfish are showing signs of fast growth.

Management Options

This survey was primarily intended to assess largemouth bass and sunfish populations. Other species were captured but different survey techniques are typically used to assess their populations. Therefore, management recommendations are focused on bass and panfish.

Largemouth Bass

- Management Objective: Increase largemouth CPUE of > 14.0 inches bass to 5-10 per mile and hopefully with increased recruitment of younger largemouth bass PSD will lower to 40-50%.
- Management Action: The DNR has no immediate plans to stock any more predators. This should help in the survival of younger large-mouth bass.

Panfish

- Bluegill size structure was found at low levels.
- Management Objective: Increase bluegill size structure and maintain bluegill relative abudance
- Management Action: Stocking of predator species like largemouth bass and northern pike has been the key management technique in keeping numbers of panfish under control. With stocking not taking place in the near future we anticipate numbers of panfish to increase.

Other Management Objectives:

- Ongoing aquatic plant management continues to be an issue and will be monitored.